

California **Water Plan** Highlights

Recap California Water Plan Update 2009

INTEGRATED WATER MANAGEMENT

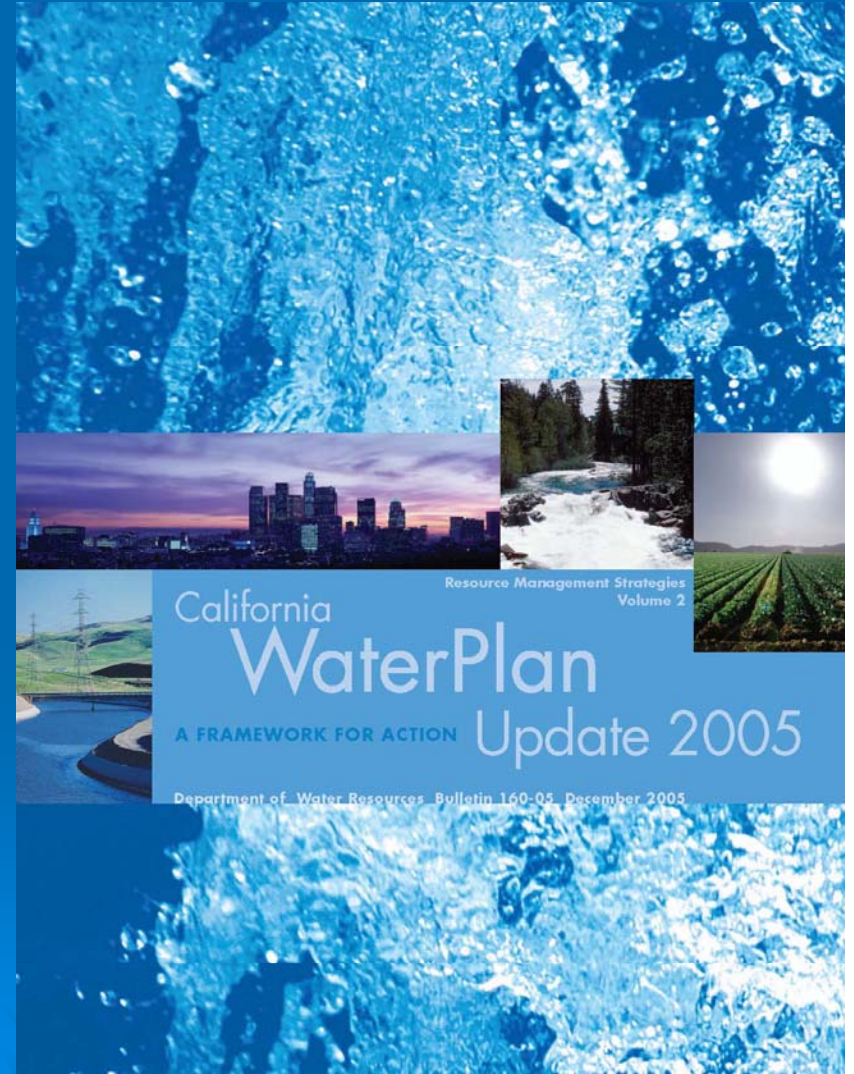


Update 2009 • Department of Water Resources

Update 2013
Tribal Workshop
September 9, 2010

The California Water Plan

- First published in 1957 as Bulletin 3
- Updated 9 times as Bulletin 160
→ Update 2009 released Mar 2010
- Water Code requires DWR to update Water Plan every 5 years
→ next one in 2013
- Growing interest by Legislature & stakeholders
- Part of Governor's Strategic Growth Initiative
- Not a mandate & No appropriation



Update 2009 – State's Blueprint Integrated Water Management & Sustainability



Update 2009 Features



- Provides water community a framework & investment guide
→ Array of strategies to achieve multiple goals & benefits
- Integrates 2009 Comprehensive Water Legislation and State government companion plans, initiatives & strategies
→ Inform the 115+ near- and long-term actions
- Incorporates consideration of uncertainty, risk & resource sustainability into water & flood planning (future scenarios)
→ Advocates placing greater value on sustainable outcomes than strictly on water supply yield & extraction

Update 2009 Features

- Advances strategies for Integrated Flood Management and Climate Change adaptation & mitigation
- Describes 27 resource management strategies to diversify regional water portfolios & increase regional self-sufficiency
- Outlines new IWM analytical methods and tools to account for population growth & development patterns, economic & climate change, and other uncertainties
- Updates 12 regional reports with information on:
 - IRWM partnerships & planning
 - Water portfolios 1998 – 2005
 - Water quality conditions
 - Flood management
 - Future scenarios to 2050



Project Organization and Public Process California Water Plan Update 2009



36-Month Collaboration Statistics

March 2007 (start) – March 2010 (completion)

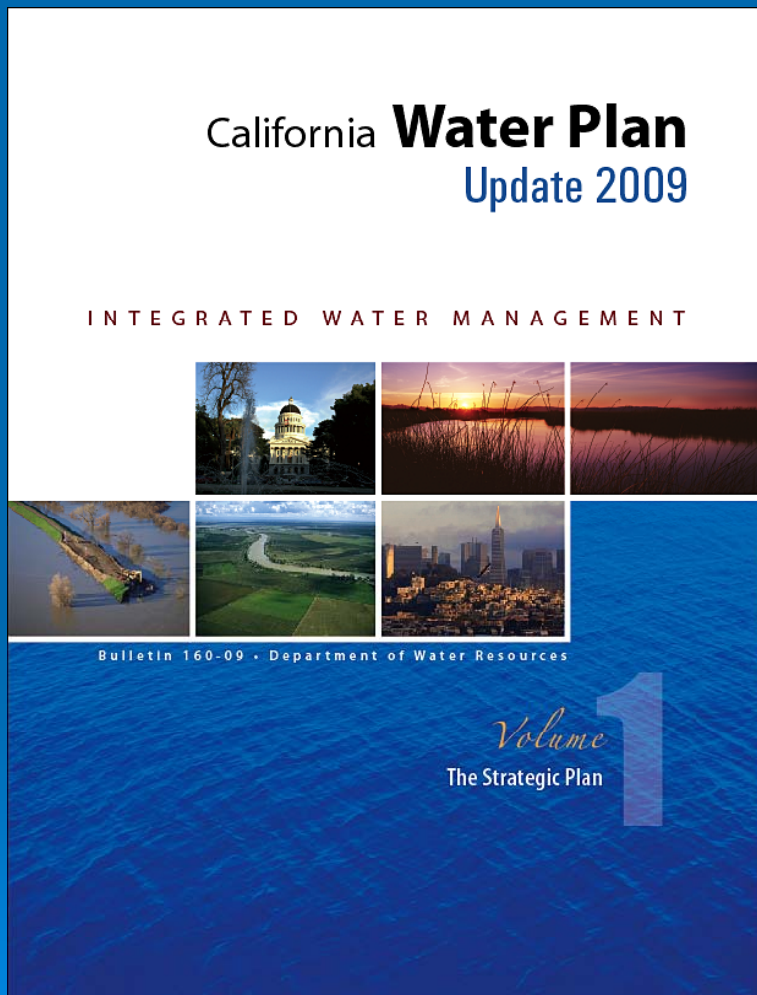
Comparison w/
Update 2005

138% of collaboration
in
60% of the time
&
24% fewer meetings

* Not including briefings

Meeting	Number	Person Hours
Steering Committee	16	1,352
Advisory Committee	10	5,507
Regional Workshops	33	6,740
Mgmt Strategy Workshops	37	1,694
All-Regions Forum	2	1,928
Plenary	3	3,839
SWAN Workshops	9	1,990
Scenarios Workshops	3	182
Climate Change TAG	4	464
Tribal Communication Committee	12	770
Tribal Water Summit Planning	10	870
Tribal Water Plenary	8	1,739
Tribal Water Summit	1	5,112
Totals	149	32,185 15.5 PY

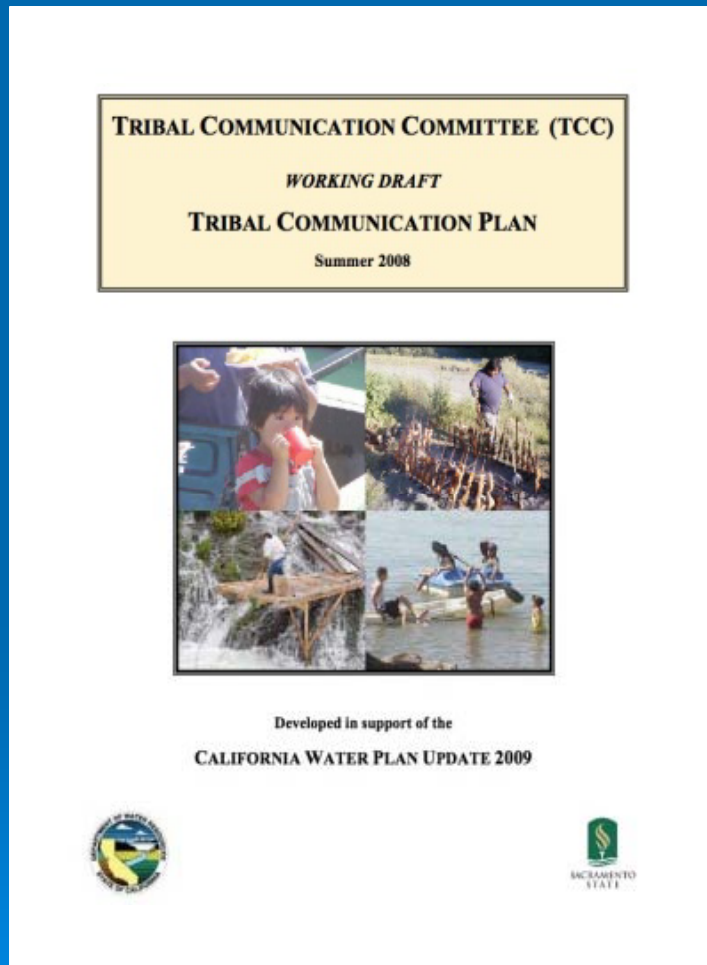
Water Plan Update Organization



- Water Plan Highlights
 - CD - Entire Water Plan
 - CD - Tribal Water Summit Proceedings
- Vol. 1 > The Strategic Plan
- Vol. 2 > 27 Resource Management Strategies
- Vol. 3 > 12 Regional Reports
- Vol. 4 > Reference Guide (120+ articles)
- Vol. 5 > Technical Guide (Online documentation)

Tribal Engagement for Update 2009

Tribal Communication Committee & Plan

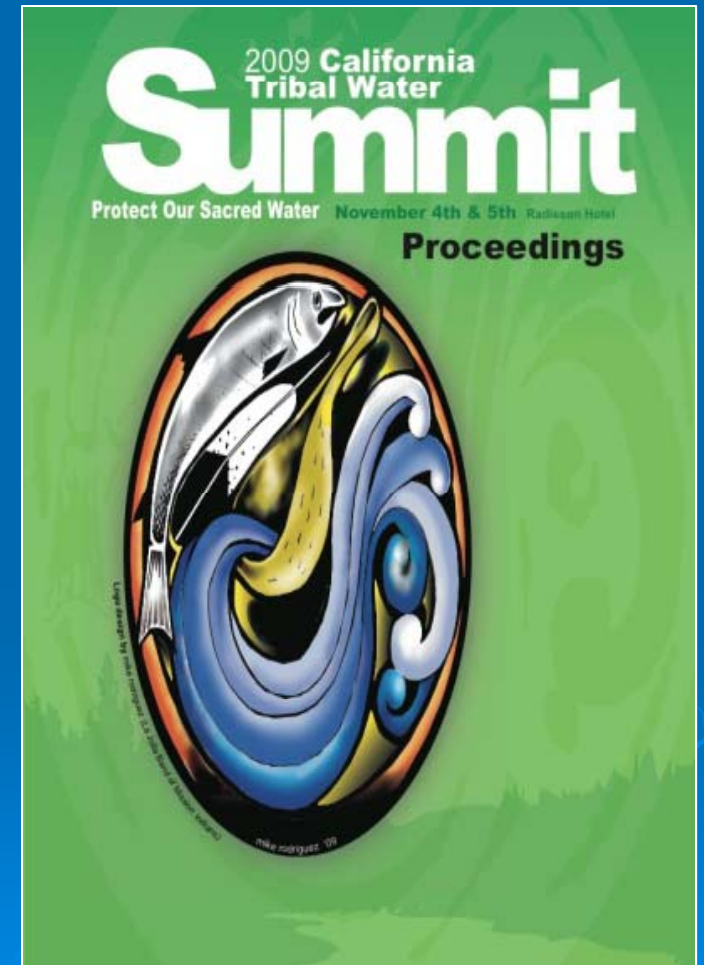


- Convened a TCC in late 2007
- Draft Tribal Communication Plan in mid-2008 - First for State government
- TCP fostered Tribal engagement in the Regional and Resource Management Strategy workshops
- TCP included the goal of hosting a statewide Tribal Water Summit during Update 2009

Tribal Engagement for Update 2009

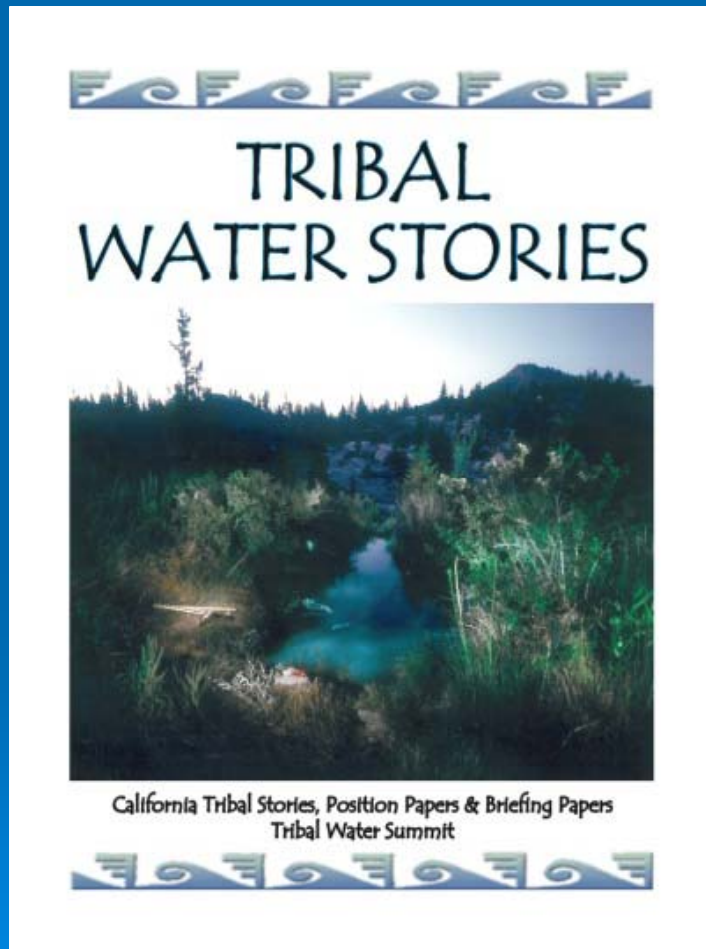
2009 California Tribal Water Summit

- Convened Tribal Water Summit Planning Team in late 2008
 - Hosted 7 regional plenary meetings
 - Included 8 State & 4 Federal agencies
- About 300 people attend on Nov 4 & 5
 - Leaders and representatives from 66 CA Tribes, 15 Tribal Organizations, 13 State & 8 Federal agencies
 - Proceedings Booklet online, in Reference Guide & hard-copy
 - Summit video online



Tribal Engagement for Update 2009

Tribal Water Stories

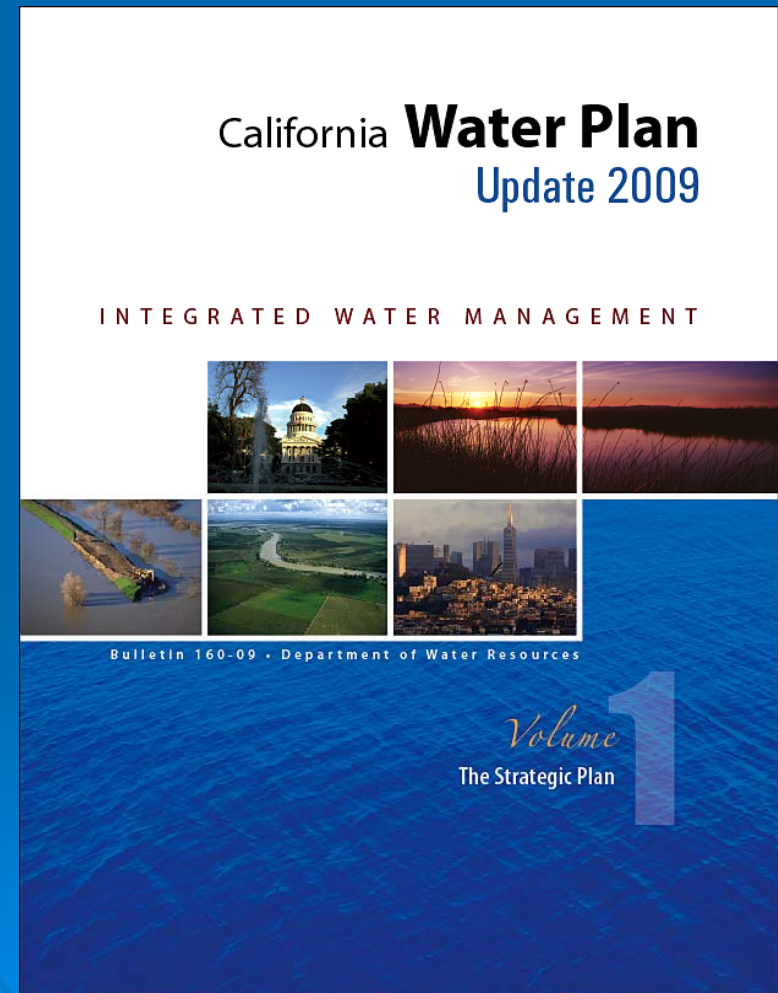


- Tribal Water Stories recorded and shared in two ways
- Over a dozen water stories video-recorded at the Summit and video available online
- Planning Team Subcommittee published Tribal Water Stories

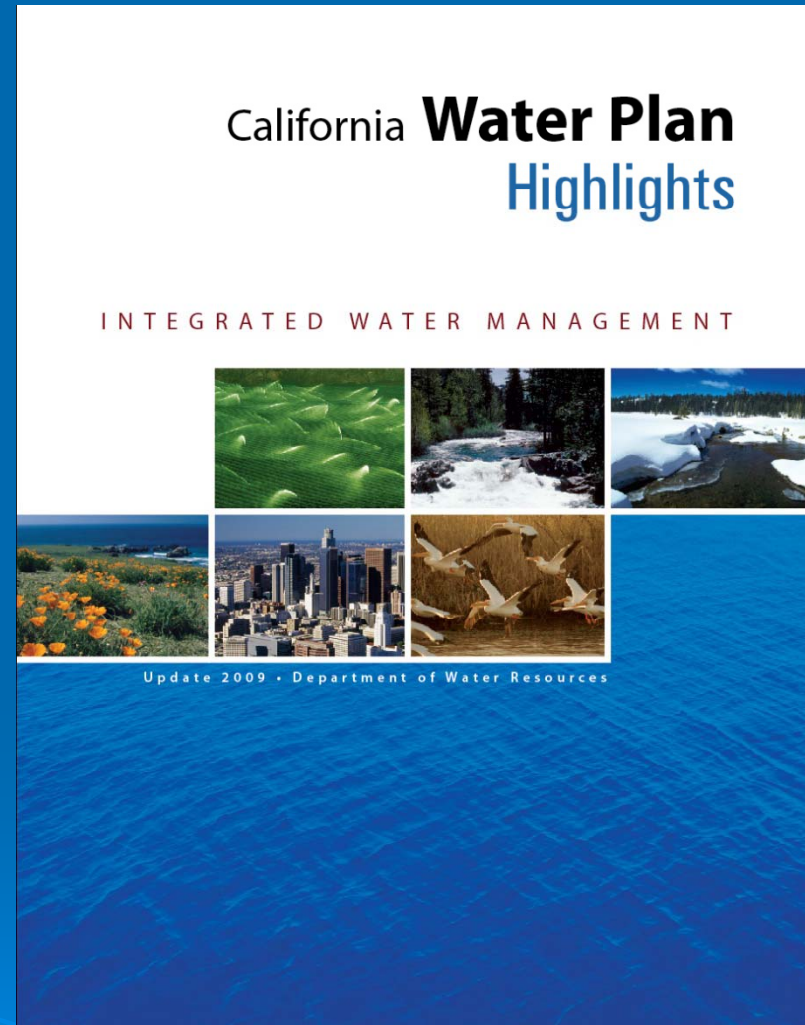
California Water Plan Update 2009

Objective – Improve Tribal Water & Resources

- One of 13 Water Plan Objectives
- Develop Tribal consultation, collaboration, and access to funding for water programs and projects to better sustain Tribal water and natural resources
- 12 Related Actions – several taken from the Tribal Communication Plan



Water Plan Highlights



Secretary's Message

It is my pleasure to introduce the 2009 California Water Plan Update (Update 2009), which sets forth a blueprint for sustainability and forges a new direction for water management in California. Our new reality is one in which we must manage a resource characterized by uncertainty and vulnerability due to climate change and changing ecosystem needs. Our past hydrology is no longer an accurate indicator of the future.

This Water Plan follows the Update 2005 roadmap of strategies for sustainable water use but with an increased sense of urgency. Update 2009 reinforces the need to follow the principles of integrated water management – statewide and regionally – and to use water efficiently, improve water quality and reliability, and integrate environmental stewardship into every aspect of how we manage our water.

Update 2009 comes on the heels of a historic water legislation package passed by the Legislature and signed into law by Governor Schwarzenegger in November 2009. The landmark legislative package positions California for 21st Century water management by establishing new urban water conservation targets, requiring statewide groundwater monitoring, and creating a new framework for improved governance in the Sacramento-San Joaquin Delta.

The Resource Management Strategies in Update 2009 build upon the new legislation and chart a path forward into a future characterized by risk and uncertainty. There is a new urgency with which we must embrace water use efficiency in the context of climate change and increased urban demand. Improved water conveyance is a strategy from past Water Plans, but is now presented with renewed significance given the context of a Delta ecosystem in continued decline and the threats of seismicity and sea level rise.

New to this Water Plan is an integration of water resource management and flood management throughout the state. This approach aims to increase resiliency in our systems while yielding multiple benefits like increased public safety, habitat protection, and water supply reliability. A critical strategy in Update 2009 is the development of a reliable revenue stream to fund necessary system improvements and to invest in the continued resilience and robustness of California's water resources and the ecosystem that supports them.

Climate change and increasing demand have greatly reduced the flexibility and resilience of the last century's infrastructure investments. Now is the time to recognize our changed conditions and reinvest in that infrastructure in a sustainable manner. In addition to statewide improvements, local resource strategies such as conservation, water recycling, groundwater storage and conjunctive use, urban runoff management, and more can converge in the context of Integrated Regional Water Management (IRWM) planning.

The strategies outlined in these pages provide the means to manage resources comprehensively; from snowmelt to estuary, from field to tap, and all of the uses within the watershed.

California water management cannot be changed overnight, but Update 2009 and the momentum behind it provide the plan, tools, and strategies to achieve momentous change beginning now. I hope you will agree that Update 2009 is the state's blueprint for sustainability and integrated water management and marks a significant new chapter in the way California manages its water resources.



Lester A. Snow
Secretary for Natural Resources
The Natural Resources Agency



Secretary's Message

"The strategies outlined in these pages provide the means to manage resources comprehensively; from snowmelt to estuary, from field to tap, and all of the uses within the watershed".

Director's Foreword

"Update 2009 spells out the urgencies that demand action: dealing with longer and more pronounced droughts, increased flood risk, threats to the environment, impaired water bodies, and aging infrastructure".

Foreword

Water Plan Update 2009 epitomizes collaboration. It reflects the perspectives of many and varied individuals, groups, and government entities representing the full spectrum of issues, concerns, and visions for the future of water management in California. Update 2009 has been enhanced by the leadership of 21 State agencies and departments that oversee or carry out water-related activities. Federal, Tribal, regional, and local entities helped shape the strategic plan—its goals, objectives, and recommendations—and 27 resource management strategies that are key to success.



Update 2009 reflects a new reality for resource management, a blueprint for sustainability, and a new direction for water decisions. This reality includes significant challenges: ecosystems in peril, the uncertainties of climate change and sea level rise, and population growth to name just a few. Update 2009 also spells out the urgencies that demand action: dealing with longer and more pronounced droughts, increased flood risk, threats to the environment, impaired water bodies, and aging infrastructure.

The Water Plan's outreach to Native American Tribes brought about a Tribal Communication Plan and culminated in the first of its kind California Tribal Water Summit in 2009. Update 2009 also introduces new water planning methods with the use of scenarios and response packages while evaluating the effects of future climate change.

This Water Plan marks a dynamic new approach to the way California manages its water resources—statewide and regionally. We must adapt California's water systems more quickly and effectively to keep pace with ever-changing conditions. With new urgency, regions must develop and implement truly integrated regional water management plans as roadmaps to meeting future water demands in sustainable ways. We must also continue our efforts at the statewide level to develop and implement plans for a sustainable Delta and to improve our flood management system. To assure balanced, effective solutions are implemented, we must develop long-term, reliable funding methods to make necessary system improvements and to invest in the continued resilience of California's water resources and the ecosystem that supports them.

In November 2009, the Legislature passed and Governor Schwarzenegger signed a comprehensive water package which is integral to Update 2009. Today, State government has the responsibility and opportunity to work with local partners within a new Delta governance structure to complete and implement plans for improving both the Delta ecosystem and the reliability of water supply derived from the Delta. We also must step up our efforts to integrate this work with our ongoing responsibilities to develop a Central Valley Flood Protection Plan, implement the FloodSAFE California initiative, and improve water storage statewide.

Regional water planning and management is essential for solving California's water issues. Local governments, agencies, and stakeholders have the best understanding of their water management challenges. DWR and other State agencies must partner with local agencies and governments to advance Integrated Regional Water Management, and to implement the new requirements for water conservation and groundwater monitoring. State government can provide expertise, technical assistance, and other essential support activities.

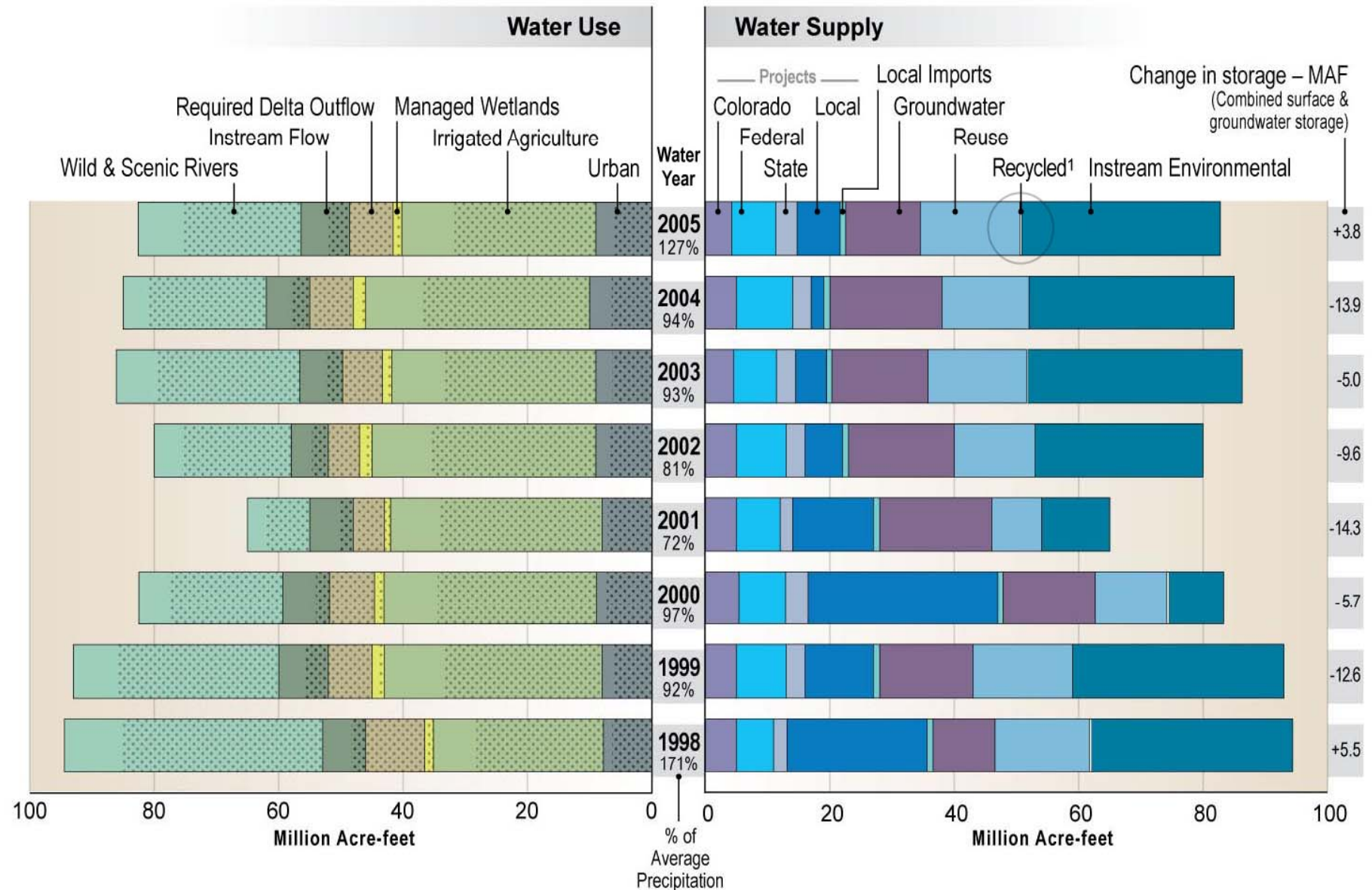
The California Water Plan Update 2009 will help chart our course toward more sustainable, integrated resources management. In broad strokes, this means considering water supply reliability, flood protection, water quality, and environmental stewardship in all resource management decisions. By doing so, we increase our chances of realizing the Water Plan's vision: a productive economy, healthy ecosystem, and desirable quality of life for all Californians.

A handwritten signature in dark ink, appearing to read "Mark W. Cowin".

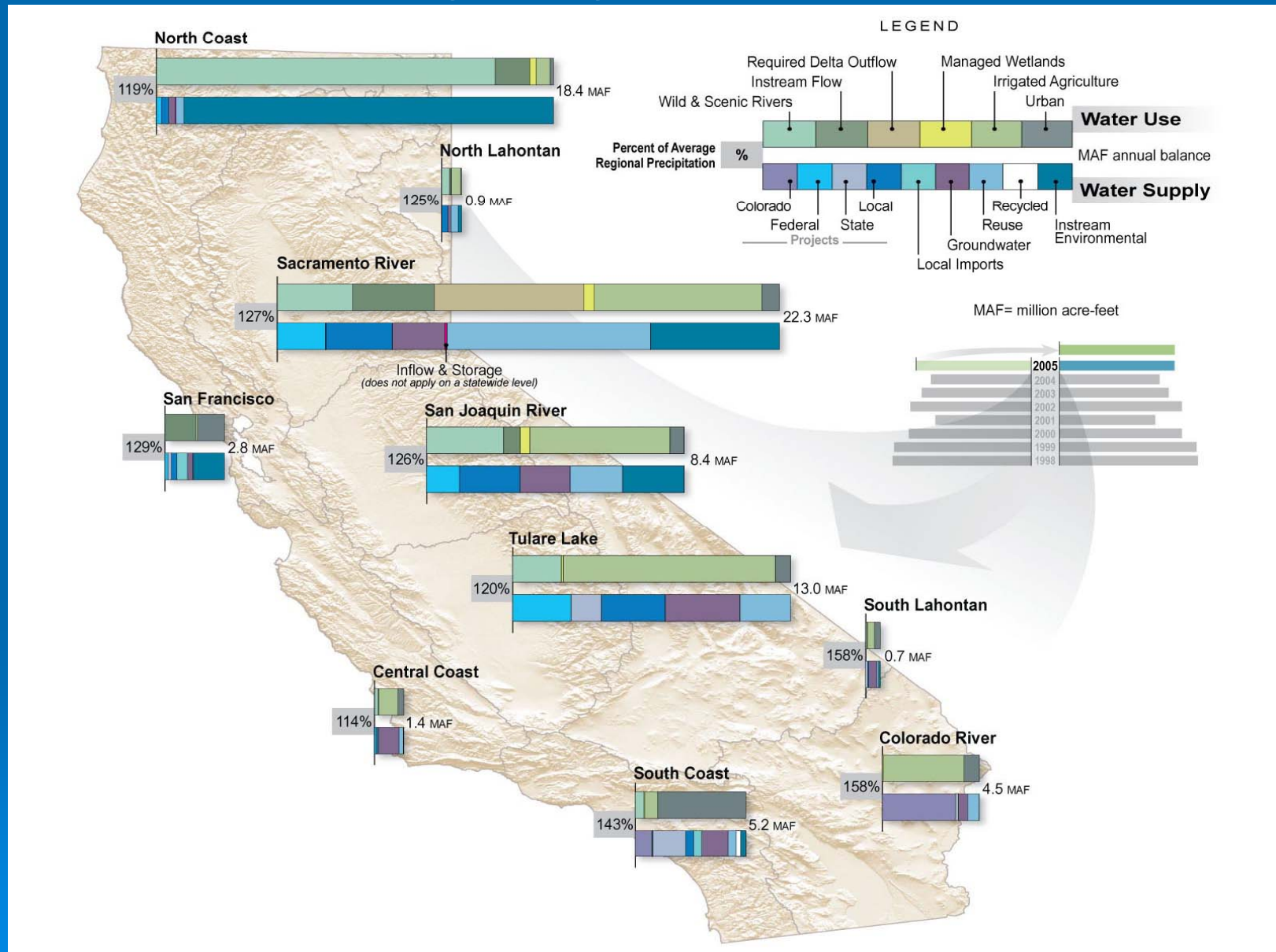
Mark W. Cowin, Director

California's Water Resources: Variable & Extreme

Butterfly Chart

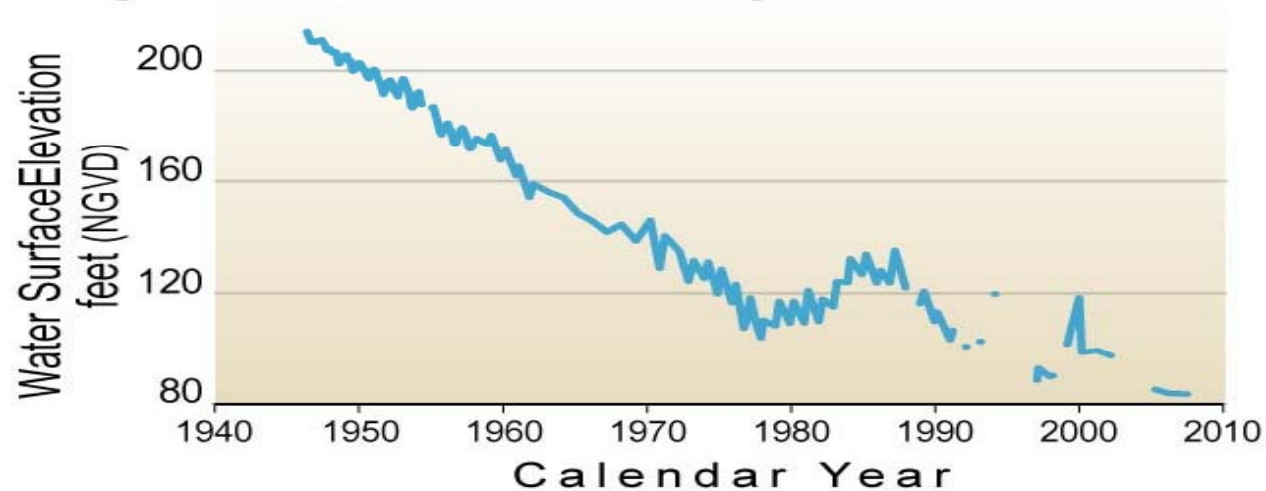


Understanding Regional Diversity (2005)

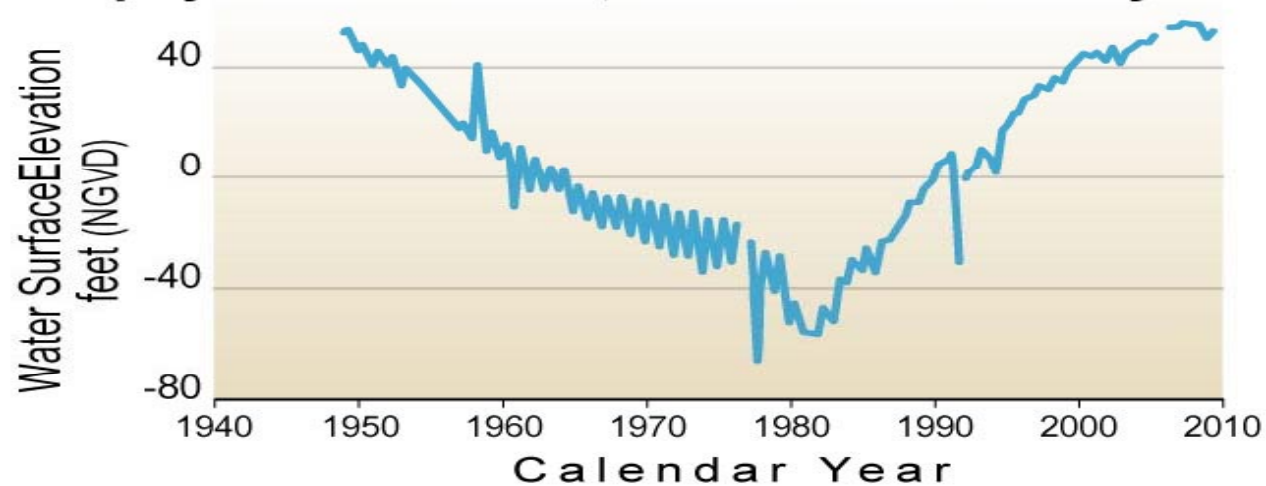


Groundwater Overdraft & Recovery

Kings Basin, Fresno County



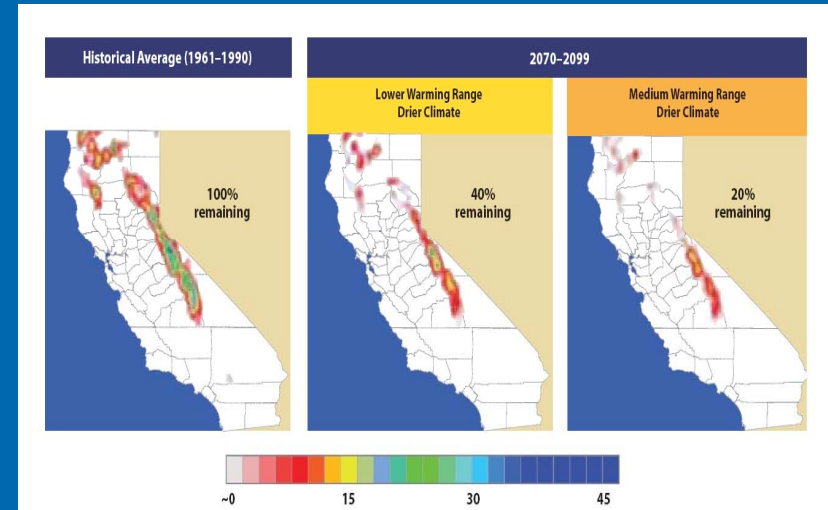
Brophy Water District, South Yuba County



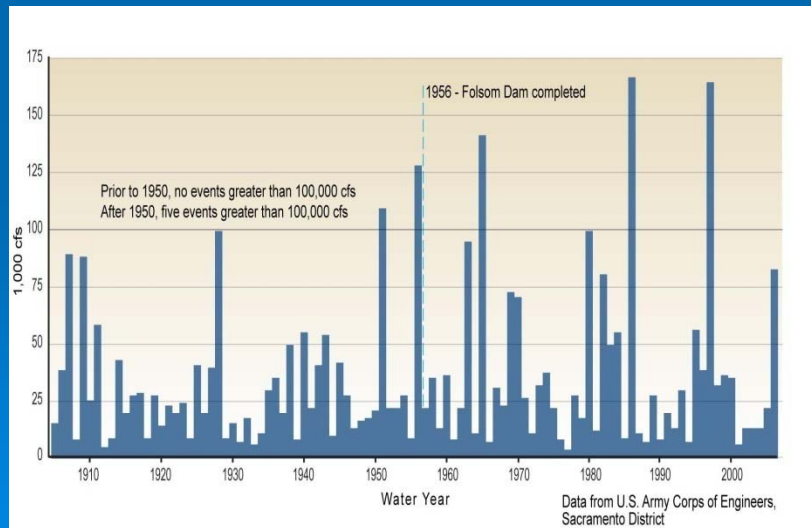
Climate Change: Future Hydrology Unlike the Past



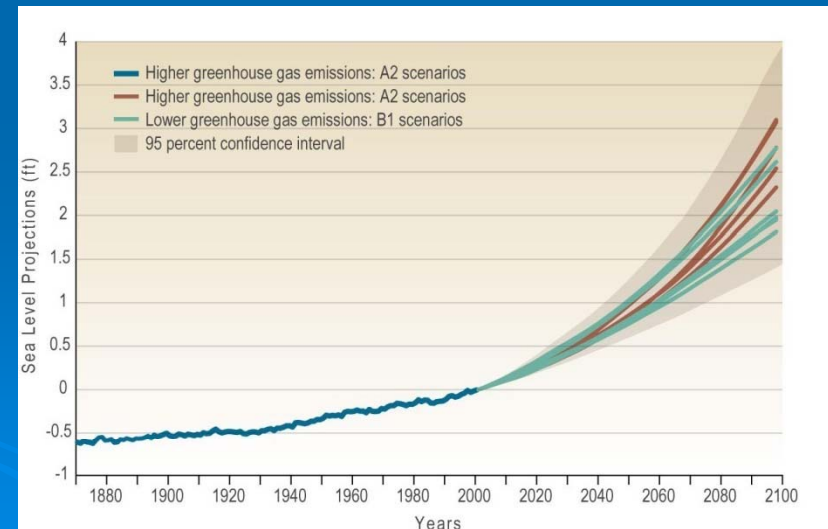
Higher air & water temperature



Early snowmelt & less snowpack



Changing runoff pattern



Rising sea level

3 Future Scenarios: Key Factors of Uncertainty

Factors of Uncertainty

Current Trends

Recent trends are assumed to continue into the future. Regulations are not coordinated or comprehensive, creating uncertainty for planners and managers. The state continues to face lawsuits, from flood damages to water quality and endangered species protections.

Slow & Strategic Growth

Private, public, and governmental institutions form alliances to provide for efficient planning and development that is less resources intensive than current conditions. State government implements comprehensive and coordinated regulatory programs to improve water quality, protect fish and wildlife, and protect communities from flooding.

Expansive Growth

Future conditions are more resource intensive than existing conditions. Protection of water quality and endangered species is driven mostly by lawsuits. State government has responded on a case-by-case basis, creating a patchwork of regulations and uncertainty for planners and water managers.

Population



59.5 million* (22.8 million increase)



44.2 million (7.5 million increase)



69.8 million (33.1 million increase)

Land Use



Continued development



Compact development



Sprawling development

Irrigated Crop Area



8.6 million acres (0.7 mil. acre decrease)



9.0 million acres (0.2 mil. acre decrease)



8.2 million acres (1.0 mil. acre decrease)

Environmental Water



1.0 additional MAF



1.5 additional MAF



0.6 additional MAF

Background Water Conservation



10% more efficient



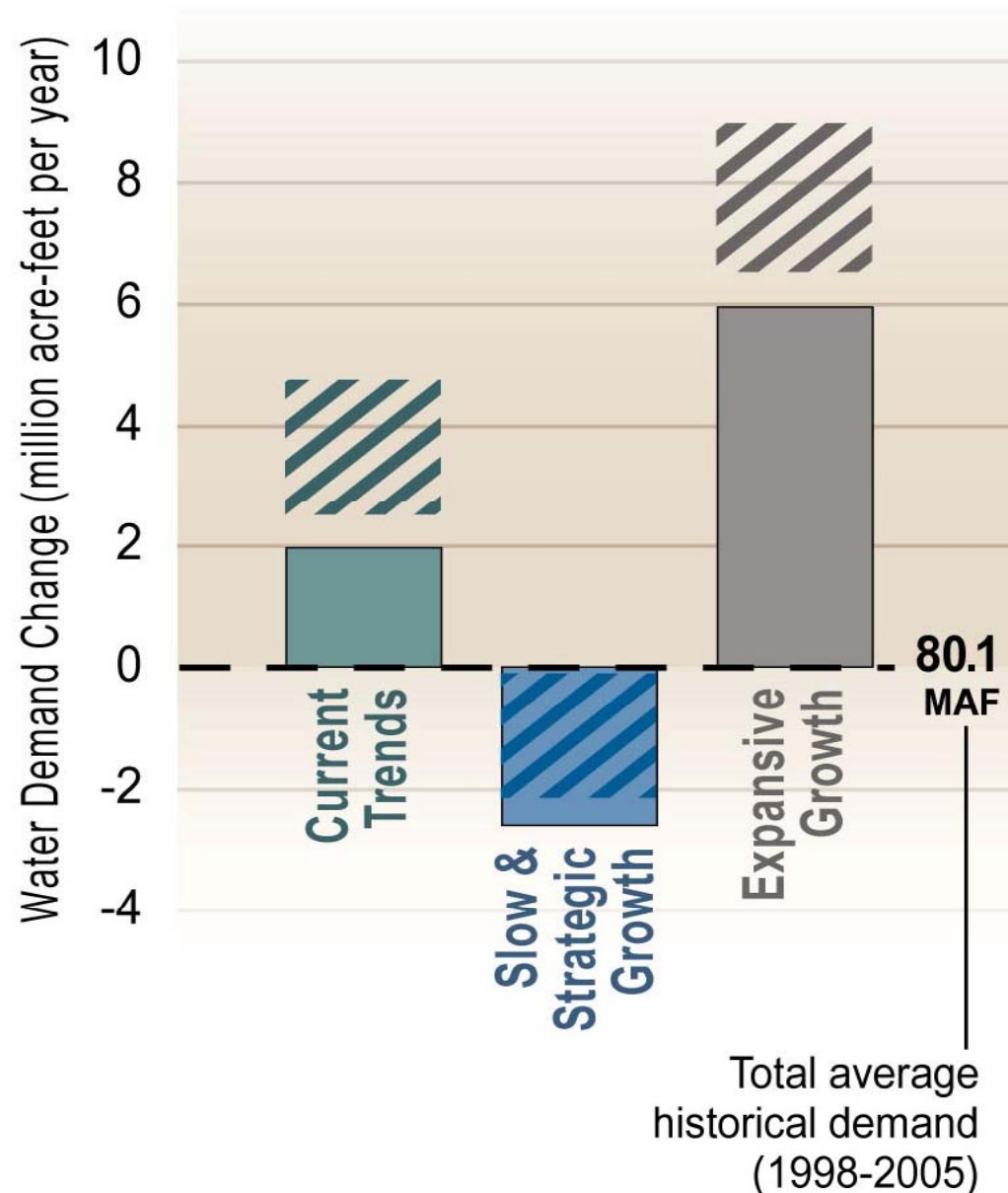
15% more efficient



5% more efficient

Statewide Water Demand Change for 2050 Scenarios

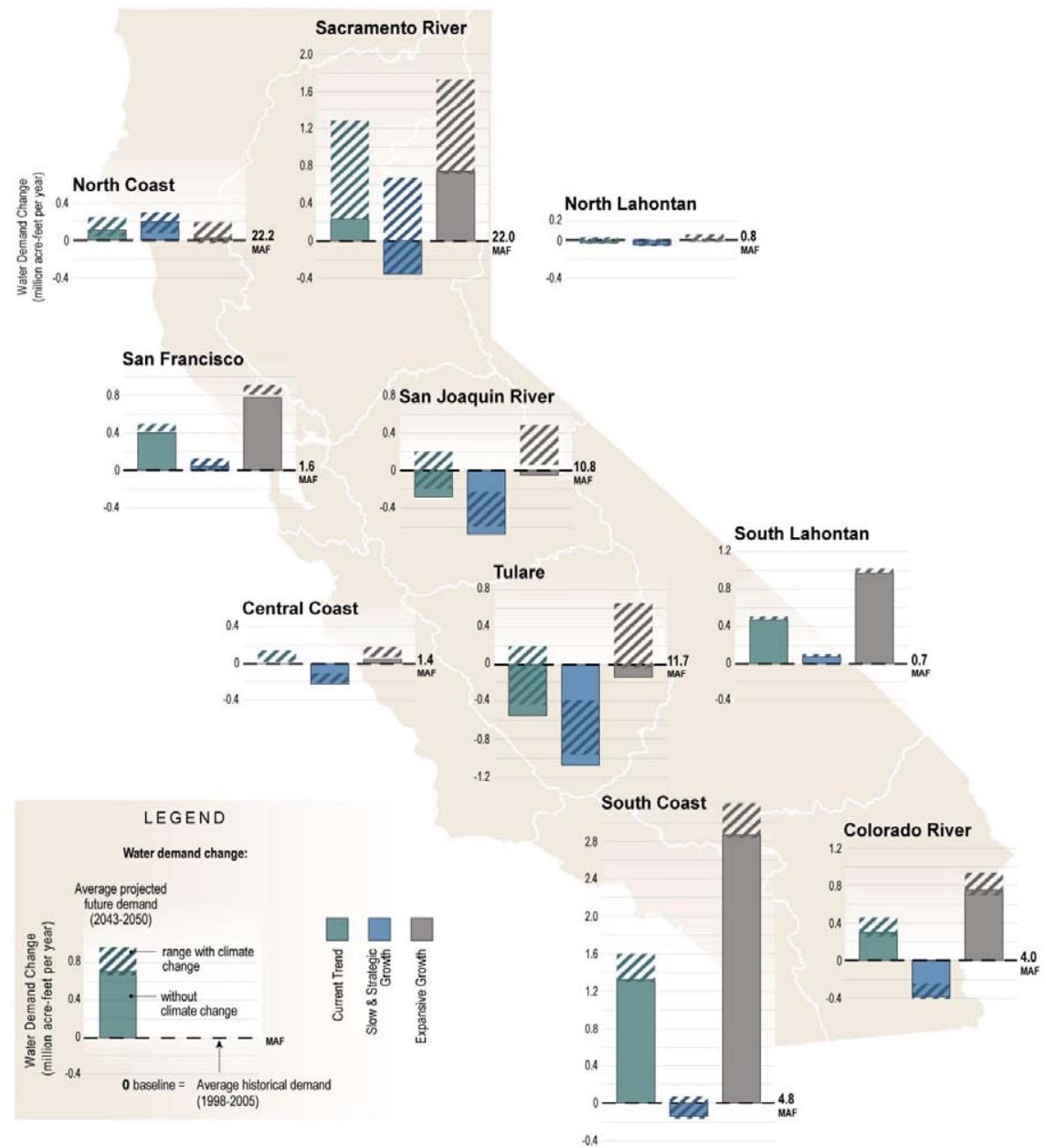
Without & With
Climate Change



Water Demand Change for 2050 Scenarios

From a Regional Perspective

Wide-ranging climate variability



27 Resource Management Strategies

A Range of Choices

Reduce Water Demand

- Agricultural Water Use Efficiency
- Urban Water Use Efficiency

Improve Operational Efficiency & Transfers

- Conveyance – Delta
- Conveyance – Regional / Local
- System Reoperation
- Water Transfers

Increase Water Supply

- Conjunctive Management & Groundwater Storage
- Desalination – Brackish & Seawater
- Precipitation Enhancement
- Recycled Municipal Water
- Surface Storage – CALFED
- Surface Storage – Regional / Local

Improve Flood Management

- Flood Risk Management

Improve Water Quality


- Drinking Water Treatment & Distribution
- Groundwater / Aquifer Remediation
- Matching Quality to Use
- Pollution Prevention
- Salt & Salinity Management
- Urban Runoff Management

Practice Resource Stewardship

- Agricultural Lands Stewardship
- Economic Incentives
(Loans, Grants & Water Pricing)
- Ecosystem Restoration
- Forest Management
- Land Use Planning & Management
- Recharge Areas Protection
- Water-Dependent Recreation
- Watershed Management

Other-- Crop idling, dew vaporization, fog collection, irrigated land retirement, rainfed agriculture, waterbag transport

Variable Conditions & Unique Responses 12 Regional Reports

- 
- Setting
 - Regional Water Conditions
 - Relationship with Other Regions
 - Regional Water and Flood Planning and Management
 - Looking to the Future
 - Water Portfolios 1998-2005
 - Selected References

Strategic Plan Elements

double foldout 12A – 12D

➤ Desired future for CA water
& Purpose of Water Plan

Vision & Mission

➤ Desired outcomes for the
2050 planning horizon

7 Goals

➤ Core values & philosophies

10 Guiding Principles

➤ Statements of intent
/ Focus on what & when

13 Objectives & 115+ Actions

➤ Removing impediments &
leveraging opportunities

9 Recommendations

Ways to Access Water Plan Information

- Visit the *Water Plan Web Portal*
www.waterplan.water.ca.gov



- Subscribe to *Water Plan eNews*
a weekly electronic newsletter
www.waterplan.water.ca.gov/enews